Some Commercial Sources of Biological Control Agents in California

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Biological control is the use of parasites, predators, and disease-causing organisms to help keep insect pests in check. Naturally occurring agents are continually at work in the environment. In some cases man has intervened in this process by releasing additional numbers of these agents in an attempt to improve the biological control of pests. However, limitations do exist with this type of program. For example, some biological control agents, such as the praying mantis, are general feeders, and are just as likely to capture and consume a beneficial insect as a crop-destroying pest. Others, such as the convergent lady beetle, cannot be expected to remain confined to the locale where they are released. Despite the limitations of some biological control agents, positive results have been obtained and interest in them continues. The purpose of this leaflet is to provide information on some commercial sources of parasites, predators, and pathogens available in California.

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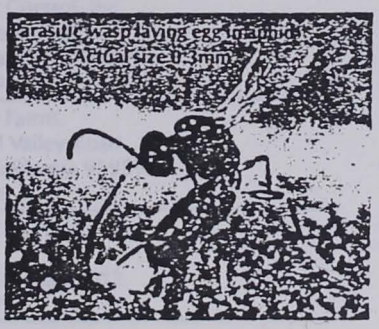
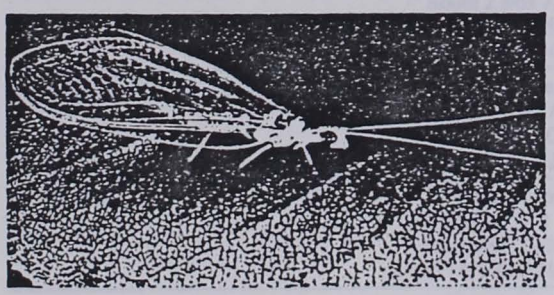
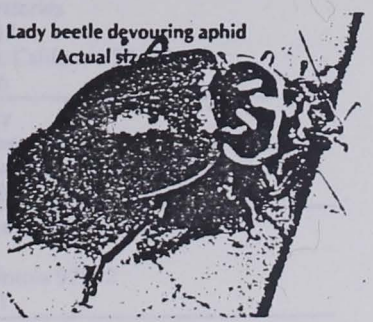
AGENTS

AP = Armyworm parasite - *Chelonus texanus*
BT = Caterpillar disease - *Bacillus thuringiensis* - (Biotrol, Dipel, Thuricide)
DM = Predatory mites - *Phytoseiulus persimilis*, and *Metaseiulus occidentalis* *Amblyseius californicus, A. hibisci*
GL = Green Lacewing - *Chrysopa carnea*
LB = Ladybugs (lady beetle) - *Hippodamia convergens*
MH = Black scale parasite - *Metaphycus helvolus*
MP = Mealybug destroyer - *Cryptolaemus montrouzieri*
MR = Fly parasite - *Muscidifurax raptor*
NV = Fly parasite - *Nasonia vitripennis*
PB = Pink bollworm parasite - *Microchelonus blackburni*
PM = Chinese praying mantis - Egg cases *Tenodera aridifolia sinensis*
PV = Fly parasite - *Pachycrepoideus vindemiae*
RS = Red scale parasite - *Aphytis melinus* and *Comperiella bifasciata*
SE = Fly parasite - *Spalangia endius*
TP = Tomato pinworm parasite - *Apanteles scutellaris*
TW = Parasitic wasp - *Trichogramma* spp
TZ = Fly parasite - *Tachinaephagus zealandicus*
WP = Whitefly parasite - *Encarsia formosa*







Photographs by Jack Kelly Clark

AGENTS	SOURCES
MP	Associates Insectary P.O. Box 969 Santa Paula, California 93060 (805) 525-7015
MR, SE	Beneficial Biosystems 1603 63rd Street Emeryville, California 94608 (415) 655-3928
GL, SE, TW	Beneficial Insects, Ltd. P.O. Box 154 Banta, California 95304 (209) 835-6158
NV, SE	Beneficial Insectary 245 Oakrun Road Oakrun, California 96069 (916) 472-3715
LB, PM	Bio-control Company P.O. Box 247 Cedar Ridge, California 95924 (916) 272-1997
RS (*Aphytis* only)	Foothill Agricultural Research, Inc. 510 W. Chase Drive Corona, California 91720 (714) 371-0120
LB	Fountain's Sierra Bug Company P.O. Box 114 Rough & Ready, California 95975 (916) 273-0513
LB, PM	Natural Pest Control 9397 Premier Way Sacramento, California 95826 (916) 362-2660
BT, LB, PM	Orcon Organic Control, Inc. 5132 Venice Boulevard Los Angeles, California 90019 (213) 937-7444
AP, BT, DM, GL, LB, MP, MR, PB, PM, PV, RS, SE, TP, TW, TZ, WP	Peaceful Valley Farms 11173 Peaceful Valley Road Nevada City, California 95959 (916) 265-5996
AP, DM, GL, LB, MP, MR, PB, PV, RS, SE, TP, TW, TZ	Rincon Vitova Insectaries, Inc. P.O. Box 95 Oak View, California 93022 (805) 643-5407
MR, PV, SE, TW, TZ	Spalding Laboratories Route 2 Box 737 Arroyo Grande, California 93420 (805) 489-5946
GL, LB, MR, PM, SE, TW, TZ	Unique Nursery 4640 Attawa Ave. Sacramento, California 95822 (916) 451-9929
BT, LB, PM	W. Atlee Burpee Company P.O. Box 748 Riverside, California 92502 (714) 689-1191
WP	White Fly Control Company P.O. Box 986 Milpitas, California 95035
BT, LB	Many nursery and discount stores.

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